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REMARKS

After entry of this amendment, claims 1-11 and 13-26 remain pending, but amendments are being made to some of these claims as shown above. Reconsideration and continued prosecution of this application is respectfully requested.

A paragraph on page 12 of the specification is being amended to include an inadvertently omitted reference to numeral 84, which was included in the drawings as filed (see FIG. 9). The amendment is supported by the drawings, and no new matter has been added.

Claim 1 is being amended to recite that "the first flexible multilayer reflector comprises a polymeric material that resists degradation when exposed to blue, violet, or ultraviolet light". Support for this amendment can be found throughout the application, e.g. at page 19 lines 1-5, page 22 lines 14-28, and page 24 lines 17-26. No new matter has been added.

Dependent claim 23 is being amended to add "blue" and "violet" as alternatives to UV light, for better consistency with claim 1. Support can be found in the same places. No new matter has been added.

Dependent claim 12 is being canceled without prejudice.

Dependent claim 13 is being amended to depend from claim 10. Support for the amendment can be found in the specification at page 24 line 27 to page 25 line 6. No new matter has been added.

Dependent claim 17 is being amended to correct the inadvertent comma at the end of the sentence. It is also being amended to depend from claim 16, and reworded somewhat for improved readability. Support can be found e.g. on page 19, lines 6-25.

Dependent claim 20 is being amended to delete the unnecessary word "second", in response to the informality pointed out by the Examiner. The same change is being made to dependent claims 21-25 for consistency. Claim 24 is also being amended to delete the unnecessary and awkward verbiage "a polymeric material". No new matter has been added.

Claims 3 and 15, originally submitted in dependent form, are being rewritten in independent form with no change in scope. This makes a total of three independent claims in the present claim set.

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Provisional Obviousness-Type Double Patenting Rejections

Various claims of the present application were provisionally rejected over various claims of the following copending and commonly assigned applications, under the judicially-created doctrine of obviousness-type double patenting ("ODP"):

U.S. Application 10/726,968 (Attorney Docket No. 59418US002);

U.S. Application 10/726,997 (Attorney Docket No. 58389US004);

U.S. Application 10/727,026 (Attorney Docket No. 59417US002); and

U.S. Application 10/727,072 (Attorney Docket No. 59416US002).

In response thereto, Applicants note that after consideration of the arguments that follow, even if these provisional ODP rejections are maintained they will be the only rejections remaining in this application. As such, they should be withdrawn in view of the practice outlined in MPEP § 804 (I)(B). The applications listed above have not been granted any notice of allowance as of the date of this writing.

Further, Applicants traverse certain assertions made in the Office Action in connection with the ODP rejections. With respect to the '968 application, Applicants disagree with at least the following:

- that "the claims of the instant application are broader than the claims of application '968 and therefore are anticipated thereby," and that "[c]laim 1 of the instant application is anticipated by claim 1 of '968". Although present claim 1 is broader in some respects than claim 1 of '968, it is also narrower than that claim in other respects. For example, present claim 1 does not require a multilayer reflector that is "nonplanar", as does claim 1 of '968. On the other hand, present claim 1 does require a layer of phosphor material that is "adjacent" the multilayer reflector, but claim 1 of '968 does not. Therefore, the blanket assertion that "the claims of the instant application are broader than the claims of application '968" is incomplete and misleading, since the present claims are also narrower than the '968 claims. At best, one can say that the present claims have a different but

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overlapping scope relative to the '968 claims. This falls far short of one set of claims "anticipating" the other set.

- that "[c]laim 2 of the instant application directly corresponds to claim 2 of '968." As a dependent claim, present claim 2 includes all the limitations of present claim 1, including, for example, a layer of phosphor material that is "adjacent" the multilayer reflector. But claim 2 of the '968 application does not include that limitation. Likewise, claim 2 of '968 includes the limitation from claim 1 of '968 of a multilayer reflector that is "nonplanar", which present claim 2 does not require. When due consideration is given to such included limitations, it is plain that present claim 2 does *not* directly correspond to claim 2 of '968.
- that, in connection with claim 3, "[i]t is well within ordinary skill in the art for an adhesive to contain phosphor material in order to deposit the material in layer form". Pursuant to MPEP § 2144.03, the Examiner is respectfully requested to provide appropriate documentary evidence in support of this assertion, particularly in the field of LED-based light sources.
- that "[c]laim 4 of the instant application directly corresponds to claim 3 of '968", and that "[t]he remaining claims directly correspond to each other ..." at least for the same reasons as given above with respect to claim 2 of the present application.

With respect to the '997 application, Applicants disagree with at least the following:

- that it "would have been obvious ... to combine the various features of claims 1, 2 and 12 to produce the claimed invention of claim 1 of '997 [sic] in order to provide for the greatest patent protection." Applicants challenge the alleged motivation "to provide for the greatest patent protection". Further, combining the features of the cited claims of '997 would not produce the invention claimed in present claim 1 at least because the former claims specify a multilayer reflector that "reflects the excitation light", whereas present claim 1 specifies a multilayer reflector that "transmits the excitation light".

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- that “[c]laim 3 of the instant invention directly corresponds to claim 4 of ‘997,” and that “[c]laim 5 of the instant invention directly corresponds to claim 2 of ‘997,” and that “[t]he remaining claims directly correspond to each other ...”, since the claims of the instant invention include limitations (e.g. a multilayer reflector that “transmits the excitation light”) not included in claims of the ‘997 application and vice versa.

With respect to the ‘026 application, Applicants disagree with at least the following:

- that “the claims of the instant application are broader than the claims of application ‘026 and therefore are anticipated thereby,” and that “[c]laims 1 and 20 are anticipated by claims 1 and 18 of ‘026”. Present claim 1 and its dependent claims require a multilayer reflector that “transmits the excitation light”, whereas the ‘026 claims require a multilayer reflector that “reflects the excitation light”. Present claims 1 and 20 are thus broader in some respects than claims 1 and 18 of ‘026, but narrower in other respects. Therefore, the blanket assertion that “the claims of the instant application are broader than the claims of application ‘026” is incomplete and misleading, since the present claims are also narrower than the ‘026 claims. At best, one can say that the present claims have a different but overlapping scope relative to the ‘026 claims. This falls far short of one set of claims “anticipating” the other set.
- that, in connection with claim 3, “[i]t is well within ordinary skill in the art for an adhesive to contain phosphor material in order to deposit the material in layer form”. Pursuant to MPEP § 2144.03, the Examiner is respectfully requested to provide appropriate documentary evidence in support of this assertion, particularly in the field of LED-based light sources.
- that “[c]laim 2 directly corresponds to claim 2 of ‘026,” and that “[c]laim 4 directly corresponds to claim 3 of ‘026,” and that “[t]he remaining claims directly correspond to each other ...”, since the claims of the instant invention directly or

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indirectly include limitations not included in claims of the '026 application and vice versa.

With respect to the '072 application, Applicants disagree with at least the following:

- that "the claims of the instant application are broader than the claims of application '072 and therefore are anticipated thereby," and that "[c]laim 1 of the instant application is anticipated by claim 1 of '072". In an analogous manner to the explanations given above, present claim 1 is broader in some respects (e.g. does not require a multilayer reflector that is "nonplanar") and narrower in other respects (e.g. requires a layer of phosphor material that is adjacent the multilayer reflector) than claim 1 of '072. Thus, the blanket assertion that "the claims of the instant application are broader than the claims of '072" is incomplete and misleading, since the present claims are also narrower than the '072 claims. At best, one can say that the present claims have a different but overlapping scope relative to the '072 claims, but again, this falls far short of one set of claims "anticipating" the other set.
- that "[c]laim 2 of the instant application directly corresponds to claim 2 of '072," and that "[c]laim 4 of the instant application directly corresponds to claim 3 of '072," and that "[t]he remaining claims directly correspond to each other ...", since the claims of the instant invention directly or indirectly include limitations not included in claims of the '072 application and vice versa.
- that, in connection with claim 3, "[i]t is well within ordinary skill in the art for an adhesive to contain phosphor material in order to deposit the material in layer form". Pursuant to MPEP § 2144.03, the Examiner is respectfully requested to provide appropriate documentary evidence in support of this assertion, particularly in the field of LED-based light sources.

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§ 103 Rejections

The Office Action rejected claims 1,2,5,6, 9-11,9, and 14 as being obvious (35 USC § 103(a)) over U.S. Patent 6,155,699 (Miller et al.) in view of U.S. Patent 6,172,810 (Fleming et al.). According to the Office Action, it would have been obvious to substitute the flexible polymeric multilayer reflector of Fleming for the reflector of Miller.

The Office Action also rejected claims 3, 7, and 15 as being obvious (35 USC § 103(a)) over Miller and Fleming, in combination with the assertion that "[o]ne of ordinary skill in the art would recognize that a phosphor material comprising an adhesive, a phosphor material comprising a binder and an adhesive disposed between the phosphor material and the first reflector are obvious variations of attaching the phosphor layer to the first multilayer film."

The Office Action also rejected claim 4 as being obvious (35 USC § 103(a)) over Miller and Fleming, and further in view of the printed publication "Giant Birefringent Optics in Multilayer Polymer Mirrors" (Weber et al.), stating that Weber discloses the use of birefringent layers within a multilayer polymer mirror.

The Office Action also rejected claim 8 as being obvious (35 USC § 103(a)) over Miller and Fleming, and further in view of U.S. Patent 5,540,978 (Schrenk). According to the Office Action, "Schrenk discloses the use of a flexible multilayer reflector comprising polymeric material that resists degradation when exposed to U.V. light within a light device", and it "would have been obvious ... to substitute the multilayer reflector of Schrenk in the device taught by Miller and Fleming because it maximizes the life of the reflector thereby maximizing the life of the device."

The Office Action also rejected claims 1,2,5-7,10-13,16-19, and 26 as being obvious (35 USC § 103(a)) over U.S. Patent 5,813,753 (Vriens) in view of Fleming.

The Office Action also rejected claims 1 and 20-24 as being obvious (35 USC § 103(a)) over U.S. Patent 4,882,617 (Vriens) in view of Vriens '753 and Fleming.

The Office Action also rejected claim 23 as being obvious (35 USC § 103(a)) over Vriens '617, Vriens '753, and Fleming, in view of Schrenk.

Finally, the Office Action rejected claim 25 as being obvious (35 USC § 103(a)) over Vriens '617, Vriens '753, and Fleming, in view of the Weber publication.

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In reply, Applicants argue as follows:

Claims 1 and 8. Claim 1 is being amended to include an additional limitation similar to (but slightly broader than) that of claim 8. Claim 8, which recites “the first flexible multilayer reflector comprises a polymeric material that resists degradation when exposed to UV light”, was rejected using the combination of Miller, Fleming, and Schrenk. Applicants do not dispute that Miller teaches a particular phosphor-conversion LED structure, nor, for example, that Schrenk teaches a particular all-polymeric ultraviolet light reflecting film, where the polymers are resistant to degradation by ultraviolet light.

Nevertheless, Applicants respectfully submit that the rejection of claim 8 cannot be sustained because the proposed combination lacks the required “reasonable expectation of success”, instead rendering the prior art unsatisfactory for its intended purpose. See MPEP § 2143.01(V). This is because the rejection impermissibly picks and chooses between isolated disclosures of the various references using hindsight reconstruction and the present claims as a blueprint, rather than considering each reference in its entirety, including disclosures that teach away from the proposed combination. See MPEP § 2141.02(VI). In particular, the “multilayer reflector of Schrenk” is clearly described in that reference as an all-polymeric ultraviolet reflecting film “*which is substantially transparent to visible and near infrared wavelengths while reflecting a substantial portion of solar ultraviolet wavelengths*” (emphasis added). Col. 1 lines 10-14 of Schrenk; see also col. 2 line 62 to col. 3 line 3; col. 5 lines 28-35. Such a reflector, if substituted in the device of Miller as proposed in the Office Action, would render the Miller device inoperable, since the “secondary light” of Miller, occurring at a longer wavelength than the (blue) primary light, would not be reflected by the “substantially transparent” ultraviolet reflecting film of Schrenk. The Schrenk reflecting film would fail to “transmit the emitted primary light, while preventing the converted secondary light from propagating back to the light source” as taught for example at col. 2 line 65 to col. 3 line 1 of Miller.

The rejection of claim 8 therefore cannot be sustained, and claim 8 is submitted to be allowable. Claim 1 has been amended to recite that the non-planar flexible multilayer reflector comprises a polymeric material that resists degradation when exposed to “blue, violet, or ultraviolet” light. This recitation is broader than dependent claim 8, yet is respectfully submitted

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to render claim 1 allowable over the cited references for substantially the same reasons. The other rejections of claim 1 are rendered moot by the amendment.

Claims 2, 4-7, 9-11, 13, 14, 16-26. These claims include, directly or indirectly, all the limitations of amended claim 1, and for that reason alone are submitted to be allowable. The rejections to these claims are rendered moot, and should be withdrawn.

Some of the rejections, or other statements in the Office Action, deserve comment. Applicants agree with the clear statement on page 6 of the Office Action that "Miller fails to teach or fairly suggest the multilayer reflector being flexible." However, other statements in the Office Action are inconsistent with this. For example, page 7 of the Office Action states in different places: "Miller discloses, in figures 2 and 3 and throughout the disclosure, the first *flexible* multilayer reflector disposed between ..." (emphasis added); "Miller discloses the first *flexible* multilayer reflector reflects visible light and ..." (emphasis added); "Miller discloses ... the layer of phosphor (36) is coated on the first *flexible* multilayer reflector (32,34)" (emphasis added).

Applicants disagree with the statement on page 12 of the Office Action (relating to present claim 16) that Vriens (US 5,813,753) teaches a "discontinuous layer of phosphor material", as that term is used in the present claims. The present specification does not teach that a layer becomes discontinuous simply because phosphor particles are dispersed in a binder material. On the contrary, for example, Applicants describe layer 22 of FIG. 2 (composed of one or more phosphor materials mixed with a binder) as a "substantially uniform phosphor layer". See e.g. FIGS. 2-3, and the present specification at page 3 lines 1-23 and page 9 line 14 to page 10 line 3. Compare the discussion of discontinuous phosphor layers on page 19 lines 6-25 of the present specification. Clearly, Vriens does not disclose any discontinuous layer of phosphor material.

With respect to the statement on page 12 of the Office Action relating to Vriens (US 5,813,753) and "dots", Vriens teaches only phosphor particles dispersed in a transparent material (epoxy), not a discontinuous layer of phosphor material forming a plurality of dots as recited by amended claim 17.

Claims 3 and 15. These claims have been rewritten in independent form but have the same scope as originally filed. They were rejected as being obvious over Miller and Fleming, in

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combination with the assertion that "[o]ne of ordinary skill in the art would recognize that a phosphor material comprising an adhesive, a phosphor material comprising a binder and an adhesive disposed between the phosphor material and the first reflector are obvious variations of attaching the phosphor layer to the first multilayer film." The Office Action alleged the combination would have been obvious "because it allows for secure attachment of the phosphor layer to the multilayer reflector while not impeding the phosphor material from converting emission wavelengths into visible wavelengths". Applicants traverse the rejection.

Although adhesives may be used in a wide variety of known endeavors (e.g. the use of adhesive tape such as Scotch™ brand tape and the like in children's activities and in household- and office-related projects), the present record fails to show the use of adhesives in LED-excited phosphor-based light sources (PLEDs). As the record presently stands, the use of an adhesive in a layer of phosphor material in the PLED of claim 3, and the use of an adhesive layer between the layer of phosphor material and the first flexible multilayer reflector in the PLED of claim 15, is neither taught nor suggested in any proper combination of references. The mere fact that adhesives are a common means of attachment in certain endeavors or fields is insufficient to construct a *prima facie* case of obviousness against present claims 3 and 15. A rejection cannot be sustained when it is not supported by adequate evidence. See *In re Lee*, 61 USPQ2d 1430 (Fed. Cir. 2002). Conclusory statements about what is common knowledge are insufficient. See *id* at 1434-35. If the rejection is to be properly maintained, the Examiner should submit appropriate documentary evidence in support of the rejection, as required for example by MPEP § 2144.03. Otherwise, the rejection of claims 3 and 15 should be withdrawn.

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CONCLUSION

In view of the foregoing, it is submitted that the application, including all pending claims 1-11 and 13-26, is in condition for allowance, the early indication of which is earnestly solicited.

Although the claim amendments convert two previously dependent claims to independent claims, the number of pending independent claims does not exceed three, and the total number of pending claims is less than the number of originally filed claims. Thus, other than the fee for the 2-month extension, no other fee is believed to be due by submission of this paper. If this belief is incorrect, please charge any additional required fee to Deposit Account 13-3723.

Respectfully submitted,

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